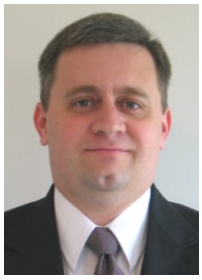
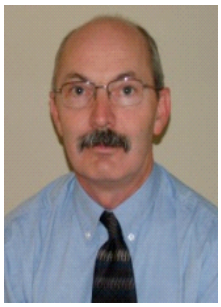
SHORT COURSE T11
MAGNETIC BEARINGS IN TURBOMACHINERY



Tim Griffin is a Staff Rotordynamics Engineer at Dresser-Rand in Olean, New York. His current work includes a focus on integrating magnetic bearings into compact, oil-free centrifugal compressor products. He has been with Dresser-Rand for 12 years and has previously also held the role of Senior Technical Specialist for hot gas expanders and axial compressors. Prior to joining Dresser-Rand, Mr. Griffin worked for ExxonMobil Upstream Research Company as a machinery engineer. Mr. Griffin has recently instructed at the Magnetic Bearing Short Course at the 1st Middle East Turbomachinery Symposium in Qatar. Mr. Griffin holds a BS in mechanical engineering from Tennessee Tech and an MS in mechanical engineering from Virginia Tech.



Frank Pinckney is a Senior Engineer with Dresser-Rand's Synchrony Business Unit in Salem, Virginia. He began his work in magnetic bearings as a Systems Engineer and later Director of Engineering for Magnetic Bearings, Inc., a joint venture company of S2M and Kollmorgen Corporation. He has also served as Motion Systems Manager for Kollmorgen Corporation and Motor Engineering Manager for Kearfott Guidance & Navigation. He is experienced in magnetic bearing design, rotor dynamics analysis, control systems integration and commissioning turbomachinery on magnetic bearings. Mr. Pinckney has recently instructed at the Magnetic Bearing Short Course at the 1st Middle East Turbomachinery Symposium in Qatar. Mr. Pinckney holds a BS from Clemson University and an MS in mechanical engineering from Virginia Tech where he also teaches mechanical engineering classes as adjunct faculty.

Richard Shultz is a Design Engineering Manager for magnetic bearing systems at Waukesha Magnetic Bearings. He has 20 years of industrial experience designing bearing systems and bearing systems, specializing in rotordynamics and control system design. He has direct experience applying magnetic bearings to turboexpanders, compressors, high speed motors, pumps, gas turbines, steel industry equipment, gas-cooled nuclear reactor equipment, military equipment, hermetically sealed motor compressors, flywheels, and high speed test rigs. Mr. Shultz recently instructed at the Magnetic Bearing Short Course at the 1st Middle East Turbomachinery Symposium in Qatar. He received his rotordynamic and control system education at Texas A&M University. While at the Texas A&M Turbomachinery Laboratory, he co-invented the TAMSeal damping seal with Dr. John Vance.

Stan Uptigrove has worked for ExxonMobil Upstream Research Company for the past 6 years as a Senior Machinery Engineer and Team Lead for the Machinery, Automation and Power Group. He started his 30 year career at Nova Corporation in Canada where he was responsible for many of the world's first application of both gas seals and magnetic bearings to turbomachinery. Mr. Uptigrove was one of the founders and senior management of Revolve Technologies (now SKF Magnetic Bearings) who developed the first digital magnetic bearing systems and consulted on the application of gas seals and magnetic bearings globally. Mr. Uptigrove has conducted many training courses and published numerous technical papers on turbomachinery, magnetic bearings and dry gas seals and has chaired a number of turbomachinery conferences. Mr. Uptigrove graduated from the University of Calgary with a BSME.